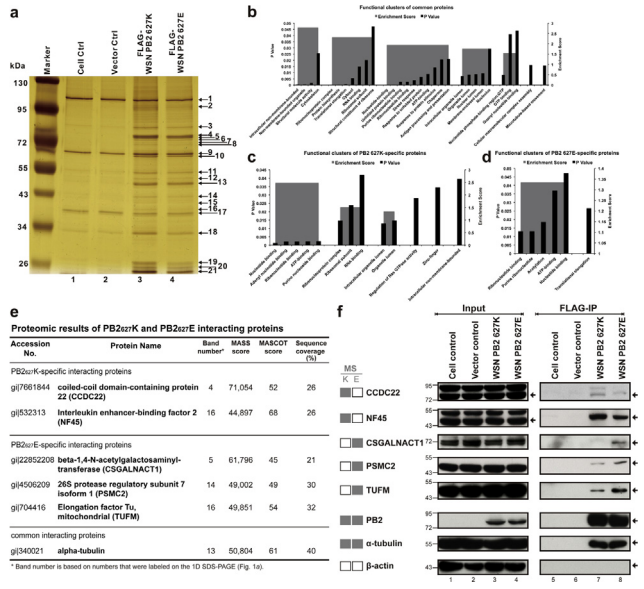

Figure Proteomic profiling and validation of cellular proteins associated with the influenza A viral $PB2_{627}K/E$ proteins in human cells.

Conclusions: Our findings suggest that the TUFM is a crucial molecule involved in resisting avian influenza virus infection in humans.

OS 3-6

OUTBREAK INVESTIGATION OF PANDEMIC INFLUENZA A H1N1 AT THE EMERGENCY DEPARTMENT IN A MEDICAL CENTER IN SOUTHERN TAIWAN

Chin-Mei Ke [1], Hung-Chin Tsai [1], Yao-Shen Chen [2], Yu-Hsiu Huang [1], Yu-Yen Lai [1], Yueh-Ju Chen [1], Yen-Yun Ni [1], Ching-Hsien Li [1], Susan Shin-Jung Lee [2]. *[1]Infection Control Unit, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan; [2]Infectious Diseases Section, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan*

Purpose:The outbreak attributed to pandemic influenza A H1N1(A(H1N1) pdm09) in the health care workers(HCWs) was rarely reported in the literature. We conducted an outbreak investigation of A(H1N1)pdm09 among the HCWs in the emergency department (ED) and characterized the temporal and in-hospital progression of A(H1N1)pdm09 as it emerged in the ED.
Methods: We included patients and HCWs with influenza like illness(ILI) enrolled during August 2014 —September 2014. Respiratory specimens were tested by influenza rapid test, real-time reverse transcriptase polymerase chain reaction (RT-PCR) and viral cultures. Full-genome sequencing for HA and NA segments were done and phylogenetic trees were built to compare the differences among A(H1N1)pdm09 strains.
Results: During this period, a total of 63 individuals suffered from ILI, including 20 patients and 43 HCW. A(H1N1)pdm09 was diagnosed in 41 individuals (20 patients and 21 HCWs). The most common presenting symptoms were fever (71.4%), cough (60.3%), sore throat (31.7%), and headache (22.2%). Three of the immune compromised patients had fatality related to A(H1N1)pdm09. The phylogenetic trees analysis for the HA and NA segments among 3 patients revealed strain similarity and no antiviral drugs resistance. The outbreak was halted by providing prophylactic zaramivir and adherence on infection control measurements.
Conclusions: Influenza outbreak is a serious public and health concern. Early detection of index case as well as implementations of HCWs education, hand hygiene, cohorting care and aggressive cleaning of the environment surfaces was important in stop the outbreak.

OS 3-7

THE EFFECTS OF CYTOKINES ON SPONTANEOUS HEPATITIS B SURFACE ANTIGEN SEROCONVERSION IN CHRONIC HEPATITIS B VIRUS INFECTION

Jia-Feng Wu [1], Hong-Yuan Hsu [1], Huey-Ling Chen [1,2], Yen-Hsuan Ni [1,3], Mei-Hwei Chang [1,2]. *[1]Departments of Pediatrics, National Taiwan University Hospital, Taipei, Taiwan; [2]Hepatitis Research Center, National Taiwan University Hospital, Taipei, Taiwan; [3]Genetics, National Taiwan University Hospital, Taipei, Taiwan*

Purpose: Chronic hepatitis B virus (HBV) infection remains a global health hazard. During the course of chronic HBV infection, hepatitis B surface antigen (HBsAg)-seroclearance indicate the suppression of viral replication, while the HBsAg-seroconversion to its antibody (anti-HBs) indicates the clearance of HBV infection. We examined the roles of human cytokines in the natural course of spontaneous HBsAg-seroconversion in chronic HBV-infection.
Methods: The clinical course of spontaneous HBsAg-seroconversion was assessed in 296 chronic HBV-infected patients. Single nucleotide polymorphisms (SNPs) in interleukin (IL)-1β, IL-2, IL-4, IL-10, IL-12β, IL-13, IL-27, and interferon-γ were checked in 296 chronic HBV-infected patients and another 193 HBV-recovers. Furin (the downstream of IL-10 and IL-12 in hepatocyte) was also knockdown in HepG 2.2.15 cells (HBV replication competent hepatoma cells) to assess the impact on HBV vieus and protein biosynthesis. The HBsAg "a determinant" sequence between chronic HBV-infected subjects with and without HBsAg-seroconversion was also analyzed.
Results: The start of immune-clearance phase (serum alanine aminotransferase [ALT] levels >30 IU/L) before 48 month-old, and hepatitis B e antigen (HBeAg)-seroconversion before 10 year-old predict spontaneous HBsAg-seroconversion in chronic HBV-infected patients (Odds ratios=17.7 and 5.0; $P < 0.001$ and 0.002; respectively). The A-allele of IL-10 SNP rs1800872 was associated with higher IL-10 serum levels, and G-allele of IL-12β SNP rs3212217 was associated with sustained high serum IL-12p70 levels during the immune-clearance phase. Both are predictors of spontaneous HBsAg-seroconversion/HBV-recovery (Odds ratios=4.0, and 26.3; $P = 0.002$, and <0.001, respectively). The knockdown of furin by siRNA in HepG2.2.15 hepatoma cells successfully suppressed the biosynthesis of HBeAg, HBsAg, and HBV viral load. Spontaneous HBsAg-seroconversion is not related to gender, HBV genotype, and HBsAg "a determinant" mutation.
Conclusions: The start of immune-clearance phase and HBeAg-seroconversion age, IL-10 and IL-12 are associated with the course of immune-clearance phase of chronic HBV infection, and predicts spontaneous HBsAg-seroconversion and HBV-recovery in human.

OS 3-8

PREVALENCE AND RISK FACTORS OF HEPATITIS B INFECTION IN PREGNANT WOMEN AT THE PRENATAL CLINIC OF THE UNIVERSITY OF THE PHILIPPINES-PHILIPPINE GENERAL HOSPITAL

Aubrey Q. Taguba, M.D. [1], Gian Carlo A. Carpio, M.D. [2], Lana Corinne Q. Tan, M.D. [3], Janus P. Ong, M.D., MPH [1], Ma. Lourdes O. Daez, M.D. [1]. *[1]Section of Gastroenterology, Department of Medicine, Philippine General Hospital, Manila, Philippines; [2]Department of Medicine, Philippine General Hospital, Manila, Philippines; [3]Department of Obstetrics and Gynecology, Philippine General Hospital, Manila, Philippines*

Purpose: Perinatal transmission remains to be the leading cause of spread of hepatitis B virus (HBV) in the Philippines. This study aimed to determine the prevalence and risk factors of hepatitis B infection in pregnant women seeking prenatal care at the University of the Philippines- Philippine General Hospital (UP PGH).
Methods: Outpatient charts of consecutive pregnant patients at the prenatal clinic of UP PGH from January to July 2014 were reviewed. Information on age, marital status, educational attainment, residence, employment status, gravidity, history of abortion or stillbirth, number of sexual partners, history